REFERENCES

1 **Biasucci LM**. CDC/AHA workshop on markers of inflammation and cardiovascular disease: application to clinical and public health practice. Clinical use of inflammatory markers in patients with cardiovascular diseases: a background paper, *Circulation* 2004;**110**:e560–7.
2 **Schins A**, Tulner D, Lousberg R, *et al*. Inflammatory markers in depressed post-myocardial infarction patients. *J Psychiatr Res* 2005;**39**:137–44.
3 **Lesperance F**, Frasure-Smith N, Theroux P, *et al*. The association between major depression and levels of soluble intercellular adhesion molecule 1, interleukin-6, and C-reactive protein in patients with recent acute coronary syndromes. *Am J Psychiatry* 2004;**161**:271–7.
4 **Miller GE**, Freedland KE, Duntley S, *et al*. Relation of depressive symptoms to C-reactive protein and pathogen burden (cytomegalovirus, herpes simplex virus, Epstein-Barr virus) in patients with earlier acute coronary syndromes. *Am J Cardiol* 2005;**95**:317–21.
5 **Lesperance F**, Frasure-Smith N, Talajic M, *et al*. Five-year risk of cardiac mortality in relation to initial severity and one-year changes in depression symptoms after myocardial infarction. *Circulation* 2002;**105**:1049–53.

IMAGES IN CARDIOLOGY

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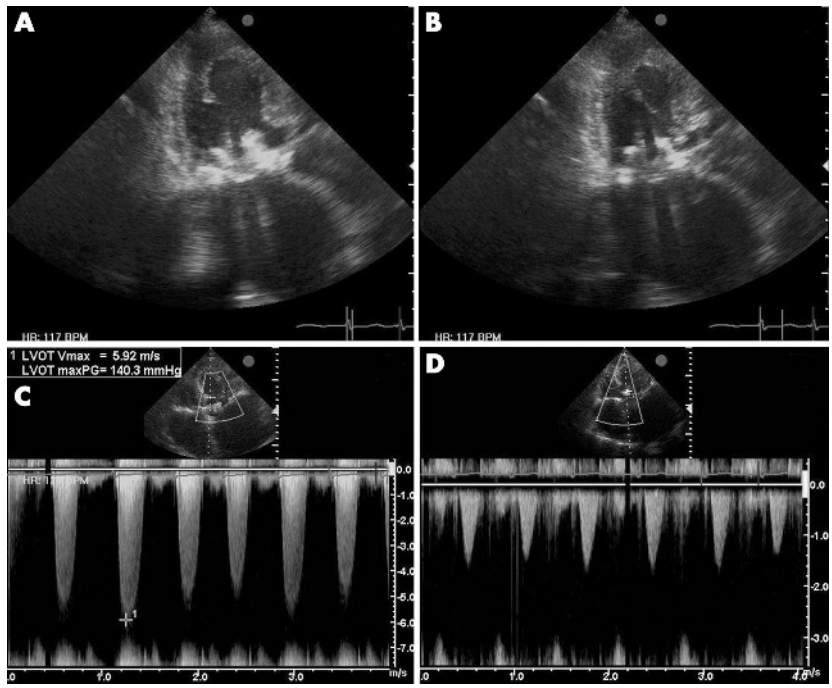
Resolution of dynamic left ventricular outflow tract obstruction caused by retained native leaflets following mitral valve replacement using medical treatment

A 72-year-old woman with atrial fibrillation underwent surgical treatment for severe mitral regurgitation and worsening breathlessness. Previous echocardiography showed preserved systolic function with prominent septal knuckle. Coronary angiography identified two vessel coronary disease.

Operative findings revealed an essentially unremarkable mitral valve with dilated annulus and dilated poorly contractile left ventricle. A Carpentier Edwards prosthesis was inserted leaving the entire mitral apparatus intact to preserve ventricular function. Severe tricuspid regurgitation required annuloplasty and two bypass grafts were placed. Haemodynamic instability postoperatively was unresponsive to inotropic therapy and subsequent echocardiography showed severe left ventricular outflow tract (LVOT) obstruction caused by prominent septal knuckle and systolic anterior motion of the retained anterior mitral valve leaflet (panels A and B). Peak LVOT gradient was 120 mm Hg and the patient remained breathless on minimal exertion. Because the patient was frail she was managed medically by cessation of digoxin and gradual introduction of bisoprolol. Within two months the LVOT gradient reduced to 8 mm Hg with only mild symptomatic limitation (panels C and D). She remains well and recently attended an outpatient review at six months post-surgery.

LVOT obstruction is recognised after mitral valve replacement with chordal preservation and a very high mortality has previously been reported. Inotropes may exacerbate obstruction by reducing left ventricular cavity size. Intraoperative transoesophageal echocardiography is advisable following valve replacement, particularly in cases of septal hypertrophy where the anterior mitral valve leaflet should be excised. This case demonstrates successful medical management of LVOT obstruction using β blockade which should be considered in patients unsuitable for reoperation.



Panels A and B: Apical long axis view showing Carpentier Edwards mitral prosthesis with retained native valve and septal knuckle during diastole (A) and during systole (B) where there is dynamic left ventricular outflow tract obstruction caused by systolic anterior motion of the native anterior mitral valve leaflet. Panels C and D: Apical five chamber view showing continuous wave Doppler trace of peak LVOT gradient mean 120 mm Hg (patient in atrial fibrillation) post-surgery (C) and approximately 8 mm Hg at two months after introduction of a β blocker (D).

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